## MUSKOXEN

## SHAGGY SURVIVORS OF THE ICE AGE

The Seward Peninsula is currently home to one of the Arctic's more distinctive animal residents, the shaggy, prehistoric looking muskox.

The muskox is truly an Ice-Age relic. It originated on the tundra of central Siberia and later entered North America over the Bering Land Bridge. Its bones have been found as far south as the states of Kansas and Illinois. However, when muskoxen lived there, the landscape was very different. Great sheets of ice up to a mile thick covered most of North America. The muskoxen lived on tundra that covered the southern edge of the ice. As the ice melted, prairie grasslands and forests advanced northward, replacing the tundra. The muskoxen also moved northward or else died out. Meanwhile, muskoxen continued to live in smaller ice free parts of Alaska, the Yukon Territory of Canada, and in northern Asia. Finally, when the ice sheets had largely disappeared, the muskoxen were able to colonize the high arctic and even Greenland.

Unlike some animals that hibernate or else migrate southward in the winter, the muskoxen are year-round residents. They are well suited to survive in the rigorous and demanding environment of the arctic. Their bodies are compact and covered with layers of thick, insulating fur and longer guard hairs which may hang almost to the ground. Even their behavior is geared to conserving energy (which is their main survival strategy). While they are agile and can gallop in a short burst of speed, their most common pace is a slow, measured walk. When disturbed or threatened, groups of muskoxen often from a defensive circle, with animals bunched together and heads and horns facing out. This allows the group to stand its ground and fight off enemies rather than expend more energy by running away.

For an animal of its size, muskoxen seem to have a relative small home range. In winter, groups of muskoxen appear to return to favorite wintering sites where snow is relatively shallow or swept free by wind. They do not do well in deep snow and the snow depth seems to be a factor limiting their distribution. On the Seward Peninsula, wintering sites are often located in the high hill country. Once the animals have settled on a wintering site, they seem to prefer staying there throughout most of the winter unless they are disturbed and frightened into abandoning the site.

In spring, they begin to scatter out and move down to lower elevations to feed on more lush vegetation. Late fall will generally find them moving back to their favorite wintering area.

Scattered finds of an occasional fossil indicate that muskoxen were once present on the Seward Peninsula, at least a very long time ago. However, they were definitely gone by the late 1800s. Having survived the major environmental changes at the end of the Ice-Age, muskoxen were to face an even more severe challenge. Evidence from the high Arctic suggests that muskoxen can survive at least limited hunting pressures from humans for a long time. However, ever increasing hunting pressure from a growing human population seems to be more than the animals can cope with. Even their defensive circle, which gives them such good protection from wolves, their major predator, serves only to make them more vulnerable to humans. As European exploration and settlement of the Arctic increased, muskoxen were threatened with extinction from over hunting. Muskoxen were gone from Alaska by the end of the 1800s.

From where then do the muskoxen on the Seward Peninsula come? In 1930, thirty-four muskoxen were captured in east Greenland and taken to Fairbanks, Alaska. Five or six years later, all the surviving Fairbanks' muskoxen and their calves were taken to Nunivak Island in southwest Alaska where they thrived. It is from the Univak Island herd that 36 muskoxen were reintroduced onto the Seward Peninsula in 1970, with another 35 animals in 1981. From those original 71 animals, the Seward Peninsula herd has grown to more than 900 animals.

This important conservation success story is not without its controversy. The expanding muskoxen population has brought complaints from some area residents that the animals trample berry picking areas, eat important green like sour dock, and displace reindeer and moose. Answers to some of these questions are currently being sought through research. The growth of the herd led to the development of a cooperation muskoxen management plan in 1994. One of the plan's objectives recognized hunting as a legitimate use of the herd. Efforts for a State managed hunt were initiated in 1995, but were terminated when a Federal subsistence hunt was authorized that same year. Efforts as cooperative management continue, and hopefully solutions to some of the controversies will be found.